subLOGIC Scenery Disk

Database Design by Michael Woodley

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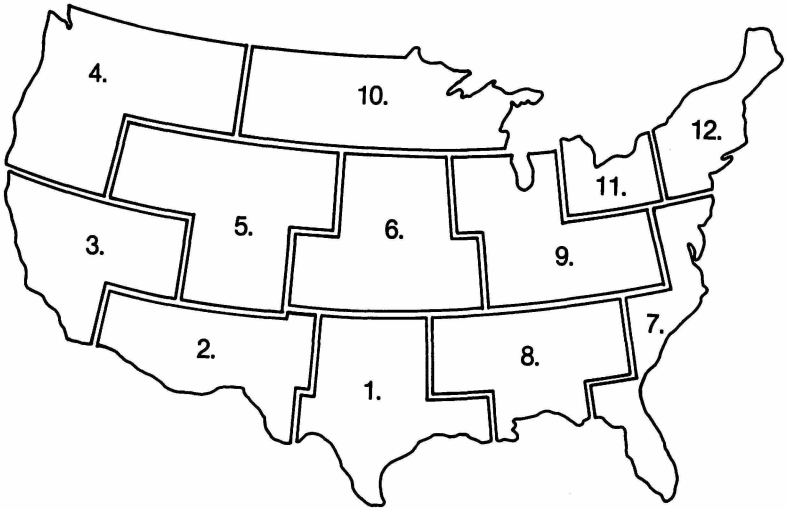
Introduction

SubLOGIC Scenery Disks are an enhancement designed to expand the potential flying environment of Flight Simulator II and other SubLOGIC flight simulation programs. You must have Flight Simulator II, Microsoft Flight Simulator, or Jet in order to use a Scenery Disk.

Twelve separate Scenery Disks covering the entire continental United States were developed using NOAA (National Oceanic and Atmospheric Administration) Sectional Aeronautical Charts and Airport/Facility Directories. These charts divide the United States into 37 different sectionals. Each sectional includes all of the airfields and radio-navigation aids in the area covered by the chart. Sectional charts also show topographical information and obstacles that are important to aviators. Scenery Disk databases were digitized from these NOAA sectionals.

Scenery Disks include enough radio-navigation aids and visual scenery to allow the user to navigate anywhere in the sectional areas covered. A typical Scenery Disk (SD) covers three aeronautical sectionals, and includes approximately 100 airports and 100 radio-nav aids. Some SD's may have more airports and radio-nav aids, since some areas of the country are more densely populated than others. Any of these SD's are ideal for simulating cross-country flights.

SubLOGIC Scenery Disks are grouped by aeronautical sectional. Each SD covers a geographical region of the United States, generally comprised of three sectionals:



WEST

1. Dallas – Ft. Worth
   Houston
   San Antonio
   Brownsville
2. Phoenix
   Albuquerque
   El Paso
3. San Francisco
   Los Angeles
   Las Vegas
4. Klamath Falls
   Seattle
   Great Falls
5. Salt Lake City
   Cheyenne
   Denver
6. Omaha
   Wichita
   Kansas City

EAST

7. Washington
   Charlotte
   Jacksonville
   Miami
8. Memphis
   Atlanta
   New Orleans
9. Chicago
   St. Louis
   Cincinnatti
10. Billings
    Twin Cities
    Green Bay
11. Lake Huron
    Detroit
12. Halifax
    Montreal
    New York

In addition to twelve regional Scenery Disks, a number of STAR Scenery Disks are also available. A STAR Scenery Disk covers a small area with a relatively dense amount of scenery. These disks are mainly intended for visual flight (sight-seeing). They include buildings and landmarks, as well as detailed renditions of the major airports in the area.

Reading a Sectional Directory

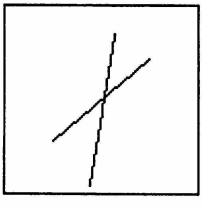
Below is a sample listing from a sectional directory with a description of the information provided. All available airports and radio-nav aids for a given sectional are listed alphabetically. Radio transmitters that border a sectional are also available on neighboring sectionals, so you can cross sectional boundaries when instrument flying.

(1)—2 - ALBUQUERQUE AND EL PASO—(2)

(3)—Alpine

(4)—12628N 10661E—(5)
(6)—alt. 4513

(7)—RWY 1-19 (8)—5999 X 72
RWY 5-23 4821 X 39



(9)—Anton Chico (VOR)—(10)

(4)—14710N 10537E—(5)
(11)—freq. 110

(9)—Artesia (NDB)—(10)

(4)—13703N 10575E—(5)
(11)—freq. 414

1 Page number
2 Sectional name
3 Airport name
4 North coordinate
5 East coordinate
6 Altitude in feet
7 Runway Designator, number
8 Runway dimensions in feet
9 Radio Aid name
10 Radio Aid type designator
11 Radio Aid frequency

Notice that the vertical sides of the airport map align with magnetic north. Magnetic north is the direction you are pointing when your magnetic compass reads 0. Each sectional map's VOR needles point toward magnetic north. The sides of the map align with true north. This is consistent with NOAA sectionals.

Using a Scenery Disk with Flight Simulator II

Load Flight Simulator II in the usual way. When the program has finished loading, enter the simulator's program editor as described in your operating manual and set the NORTH and EAST coordinates of the airport you've chosen from the directory for the region you'd like to explore (set ALTITUDE to 0). Exit the editor, remove the FSII disk and insert the appropriate Scenery Disk. Next, press CTRL E and wait for a menu to appear. This menu page lists the names of the sectionals included on the Scenery Disk. Press any key to exit, and you should find yourself at the airport you've selected. If no scenery is visible, go into radar mode and zoom out to determine your approximate location. You may be able to zoom all the way out and view the entire continental United States database, complete with rivers, highways, coastlines, and the Great Lakes. This default database display indicates that you are not within the boundaries of the sectionals included on your disk. Re-enter the program editor and double-check your coordinates, making sure that both NORTH and EAST coordinates are correct.

When you find yourself at the airport you've selected, it may be a good idea to save your position to a User Mode (see User Mode Library in the FSII Pilot's Operating Handbook). This way, if you crash, you will be returned to the selected airport. Otherwise you will be returned to a preset location (above Lake Michigan) in the default USA database.

Crossing a Sectional Boundary

When you fly over a sectional boundary, one of two things will occur. If the neighboring sectional is also included on your Scenery Disk, that sectional will load and you will have to switch to the appropriate new map and directory provided. If the neighboring sectional is not available on your disk, a common default USA database will load. This default database allows you to zoom out (in radar mode) to view the major geographical features of the United States.

If you have another Scenery Disk containing the appropriate sectional, you can switch disks and press CTRL E to log-in the new disk. After a brief load, the names of the new sectionals available on this disk will be displayed. Press any key to exit and return to Flight Simulator II.

Using a Scenery Disk with Microsoft Flight Simulator (IBM PC Versions)

Load Flight Simulator in the usual way. When you want to switch to a Scenery Disk, remove the Flight Simulator disk and insert the appropriate Scenery Disk. Press CTRL E. This will log-in the disk. A message will appear on the screen identifying the names of the sectional areas contained on the disk.

The first Scenery Disk log-in automatically checks to see if you have the most recent version of Flight Simulator. If you don't, the program updates Flight Simulator in memory. When this happens, your flight coordinates are set back to the Chicago area. This will only happen on the first Scenery Disk log-in of the session. After the first log-in, your flight coordinates and conditions will carry over as you change Scenery Disks while flying.

After logging in the first Scenery Disk, you can fly or slew through all of the scenery on the disk. You can freely exchange Scenery Disks as you fly to new areas. Press CTRL E to log-in the new area when you switch disks. If you fail to log-in a new Scenery Disk after inserting it, it will be automatically logged in when the disk is accessed. The log-in message will appear after every manual or automatic log-in.

Using the Microsoft Flight Simulator Disk as a Scenery Disk

The Flight Simulator disk contains all of the usual scenery for the Chicago, Seattle, Los Angeles, and New York areas. You can insert this disk and log it in as you would any other Scenery Disk to fly in these areas. This applies to Jet as well as Flight Simulator.

Special Note for IBM PC Flight Simulator Version 2.0

Very few copies of Version 2.0 exist. You most likely have Version 2.1, 2.10, 2.10a, 2.12, or a later version of Microsoft Flight Simulator. Look on the disk label near the serial number area, or look on the first menu page when loading Flight Simulator. If you have Version 2.0, insert the Scenery Disk and press ESC instead of CTRL E for the first log-in of the session. After this first log-in, press CTRL E as usual to log-in new Scenery Disks. Also, never re-insert the Version 2.0 disk to use the Chicago, Seattle, Los Angeles, or New York scenery; you must re-boot Version 2.0 to return to these areas. Version 2.0 also cannot be used as a Scenery Disk for Jet.

Tandy 1000/1200/2000 Flight Simulator

Scenery Disks are compatible with the Tandy 1000/1200/2000 version of Flight Simulator. With this version, always make sure to log-in a new Scenery Disk by pressing CTRL E once the disk has been inserted. No auto-load is available on this version, and failure to log-in a new disk can cause unpredictable results when the disk is accessed after an unlogged disk change.

Special Note for Compaq 286 Users

The 1.2Mbyte floppy drives in the Compaq Deskpro 286 computer cause disk-read errors when using Scenery Disks with SubLOGIC Jet or Microsoft Flight Simulator. Here is the reason why, and how to get around it:

PROBLEM - Whenever you remove a disk from the floppy drive by turning the release lever, the diskette springs out of the drive. This spring action triggers a switch in the drive that informs the disk read/write software that you have just changed the disk. The software assumes that you are about to insert a new disk, and switches to 1.2Mbyte read mode from whatever mode it happens to be in. Jet, Flight Simulator, Scenery Disks (and many other manufacturers programs) are on 360K disks, and a read error results when the Compaq 286 tries to read them as 1.2Mbyte disks.

You can verify this for yourself using the Microsoft Flight Simulator. Boot the disk, then enter and exit the editor several times (ESC key) just to see that everything is functioning properly. Then pop the disk out of the drive, re-insert it, and try to get back into the program editor. You will get a disk read error.

SOLUTION - You can avoid this problem by tricking the disk drive into thinking that you haven't changed disks. Do this by holding the disk in place with your finger while releasing the disk-release lever. DON'T LET THE DISK POP OUT OF THE DRIVE. Then manually remove the disk and insert a Scenery Disk (or Flight Simulator as scenery for Jet). The computer will never know that you changed the disk, and everything should work fine. Remember - if you let the disk pop itself out of the drive, the switch will be activated and the drive will go into 1.2Mbyte mode, thus creating errors.

Jet Users

Scenery Disks are compatible with SubLOGIC Jet. Follow the instructions in your Jet manual for loading a Scenery Disk. Jet has no automatic log-in feature, so always make sure you return to the Jet startup menu page before inserting a new Scenery disk. Changing Scenery Disks in the middle of a Jet flight can cause unpredictable results when the disk is accessed after a disk change.

Conclusion

As of this writing there are no fuel or repair facilities available on regular Scenery Disks (although they do occur on STAR Scenery Disks). To refuel, just land at an airport and enter the program editor. Your tanks will be filled and repairs will be made when you exit the editor.

We intend to periodically update and improve our Scenery Disks to include more airports, radio aids, and scenery details as recommended by users. If you know of an airport (or any other detail) that should be included on future versions of these Scenery Disks, please drop us a line and include the required information ON A SEPARATE SHEET OF PAPER (so we can store it in our files). Here's what we need to know:

Airports:	NAME, CITY, & STATE LATITUDE, LONGITUDE, & ALTITUDE HEADING, LENGTH, & WIDTH of each runway
Buildings, objects:	NAME, CITY, & STATE LATITUDE, LONGITUDE, & DIMENSIONS

Pictures and postcards are also welcome, especially aerial views. If you're unable to determine the latitude and longitude for the object or airport in question, please provide a description of where the object can be located on a map. All customer correspondence is read and answered (when appropriate). And please; remember to include any scenery suggestions or information on a SEPARATE page of your letter.

Introduction to Scenery Disk # 11

Scenery Disk Design and Tool Development by Michael Woodley
Scenery Art by Loren Kirkwood

Maps by Michelle Maase & Toni Arcus

Scenery Disk # 11 features two ILS approaches, two ATIS's, and several airports with refueling facilities. New techniques have been used to improve scenery appearance, and we've included several new never-before-seen features. SD# 11 has enough "generic" cross-country scenery, as well as highly-detailed "sight- seeing" scenery areas, to keep you flying for a long time. The following notes and recommendations will help you to explore these new scenery areas.

When flying through the Detroit area, you may want to make a detour past the Ambassador Bridge. This structure is especially interesting at night. Other Detroit city details include the Renaissance Center ("Ren Cen") and Tiger Stadium.

Pittsburgh includes many buildings and bridges. Fly southeast from Greater Pittsburgh International to view the detailed downtown area.

Niagara Falls is probably the most visually interesting detail on this Scenery Disk. You can fly below the rim of the Niagara River canyon right up to the Falls; just make sure you pull up in time to avoid crashing into it!

Johnstown, Pennsylvania is nestled among several solid 3D mountains in the southeast corner of the Detroit sectional area.

Sailplane models can be found at the following locations:

18378N, 19031E - Between Toronto, Ontario and Georgian Bay at 3500'.
18384N, 19840E - Northeast of Toronto, near Lake Ontario at 3500'.

17722N, 19512E - Southeast of Buffalo, NY at 3100'.
17482N, 20088E - South of Elmira, NY at 2600'.

The gliders south of Buffalo and Elmira are depicted at actual size in relation to the other scenery and the flight characteristics of Flight Simulator. It is very difficult to get a close-up view of either one in flight mode, and not much easier in slew mode.

The other two gliders are drawn considerably larger than life-size, making them more accessible to close inspection. Try using slew mode near one of the large gliders. Moving yourself to the left or right while turning in the opposite direction creates the illusion that the glider is soaring through the air!

A hot-air balloon can be found hovering at 1400' near Grand Lake in Ohio (16648N, 17679E). This balloon is drawn slightly larger than actual size, and can be seen easily in either flight or slew mode. But be careful not to get too close - if you run into it, you will crash.

A transporter feature is available for the very first time! All you have to do is load Flight Simulator and then log-in this Scenery Disk as usual, staying at the default (load-up) airport location. When you return to the default airport location after log-in, simply go into radar mode (Map Mode on 68000 versions of the program). You will automatically be transported to Wayne County/Metro Airport in Detroit.

Above all else, explore! A lot of work went into this project. We hope that you enjoy the results as much as we do!